

We claim:

1. An IC tester, comprising:

a test head fixture for electrically interconnecting with an IC DUT to apply
5 signals for a test program having at least one scan test and to acquire results data from
execution of the test program;

a controller for causing the test head fixture to execute the test program on the IC
DUT;

10 a data store having a test program specification, a compiled test program, and the
test program execution results data stored therein, wherein the data store further contains
cross reference data interrelating the test program specification, the compiled test
program and the test program execution results data;

15 a scan test viewing tool for presenting a set of views relating to the scan test on a
display for viewing by a user, the views comprising a cyclized view of an execution of
the test program, a procedural view of the test program, and views of an applied signal
vector, resulting scan vector and scan cell state for a scan test, wherein the scan test
viewing tool further provides navigational links for navigating between a location in one
of the views to a correlated location in another of the views.

20 2. The IC tester of claim 1 further comprising:

a test program compiler for compiling a definition of the test program into a
version of the program executable on the test, and also producing the cross reference data
interrelating the test program, scan cells, and signals of the IC DUT.

25 3. The IC tester of claim 1 wherein the controller also produces the cross
reference data interrelating the test results with the test program, scan cells and signals of
the IC DUT.

4. A computer-based IC scan test tool, comprising:

30 a display for presenting visual images of a graphical user interface;

a memory system storing software programming of the scan test tool, and a data store containing a test program specification, a compiled test program for execution on a tester, and test program results acquired from execution of the test program on the tester;

5 a computer processor for executing the software programming of the scan test
tool, whereby a set of interrelated views is presented in the graphical user interface on the
display including a cyclized view of the test program execution, a test program
procedural view and views of applied signal vector, resulting scan vector and scan cell
state, wherein the graphical user interface further provides navigational links for
navigating from a location in one of the views to correlated locations in other of the
10 views.

5. The computer-based IC scan test tool of claim 4, further comprising the
software programming further comprising an editing function, whereby the computer
processor executing the editing function enables a user to edit a definition of the test
15 program.

6. A computer-readable program carrying medium having software programming
of a scan test tool for an IC tester stored thereon, the software programming comprising:

20 data store management code for retrieving data defining a test program
specification, device definition, and test execution results for a set of scan tests of an IC
DUT, as well as cross-reference data interrelating the test program specification, device
definition and test execution results from a data store;

25 viewing code for presenting selectable views based on the retrieved data on a
visual output device, the views comprising a cyclized test view, a procedural test program
view and views of at least one signal vector, scan state and scan vector; and

 view navigation code for navigating between a selected location in a currently
presented view to a correlated location in a selected other view based on the retrieved
data.

7. The computer-readable program carrying medium of claim 6, further comprising:

a test program compiler for compiling a test program definition into a test program executable by a tester on the IC DUT, and also producing at least a portion of
5 the cross-reference data.

8. The computer-readable program carrying medium of claim 6, further comprising:

a test execution controller for causing the tester to perform a test of the IC DUT
10 according to the test program specification, for receiving test execution results from the tester, and for producing at least a portion of the cross-reference data.

9. The computer-readable program carrying medium of claim 6, further comprising:

15 a test program editor for editing the test program to re-execute on the tester.

10. A method of analyzing scan tests of an IC device, comprising:

processing data of a device definition, a test program definition, and test execution results to produce cross-reference data interrelating signals, scan chains, test
20 execution results and steps of the test program;

rendering views for presentation on a display, the views including at least a cyclized test view, a procedural test program view, and views of a signal vector, scan state, and scan vector;

selectively presenting the views on the display; and

25 navigating responsive to a user navigation input from a location selected in a current view to a correlated location in a user directed other of the views based on the cross-reference data.

11. The method of claim 10, further comprising:

30 modifying the test program definition in response to user editing inputs;

re-executing the modified test program;
acquiring test execution results from execution of the modified test program; and
repeating the steps recited in claim 10 based on the modified test program for
analyzing the modified test of the IC device.